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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/900,165

07/09/2001

Neal Kuo

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02/03/2005

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EXAMINER

BAHTA, KIDEST

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/900,165	<b>Applicant(s)</b> KUO, NEAL	
	<b>Examiner</b> Kidest Bahta	<b>Art Unit</b> 2125	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14 is/are allowed.
- 6) ☒ Claim(s) 15-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Lin et al. (U.S. Patent 6,292,582).

Regarding claim 15, Lin discloses that system for determining best process paths in a semiconductor manufacturing process including a plurality of operations, comprising a yield database for storing a plurality of yield data (5) corresponding to a plurality of wafer lots manufactured by the specific manufacturing process (column 27, lines 30-28), wherein each of the plurality of wafer lots includes a plurality of wafers (Fig. 25), and wherein the plurality of yield data corresponds to the plurality of the plurality of wafer lots (Fig. 22- Fig. 24); a process history database for storing a plurality of process path data (Fig. 2, element 58; column 8, lines 1-9); a memory for storing a program (40); and a microprocessor for performing the program, the microprocessor reading the plurality of yield data (Fig. 2, element 3) and process path data, using an analysis of variance method for identifying the most influential operation from the plurality of operations (column 18, lines 20-55; Fig. 19).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (U.S. Patent 6,292,582) in view of Nishihata (U.S. Patent 6,714,832).

Regarding claims 16 and 17, Lin discloses the limitation of claim 15, as stated above in Par. 2, however, Lin fails to disclose that the most influential operation includes a plurality of tools, and the microprocessor identifies at least one tool from the plurality of tools as being the best tool and a best process path of the semiconductor process includes the best tool.

Nishihata discloses that the most influential operation includes a plurality of tools, and the microprocessor identifies at least one tool from the plurality of tools as being the best tool (column 3, line 65-column 4, line 20) and a best process path of the semiconductor process includes the best tool (column 10, lines 26-45).

It would have been obvious to a person of ordinary skill in the art at the time of invention was made to modify the teachings of Lin with the teachings of Nishihata in order to provide a systematic process analysis, product quality control, and optimize an entire manufacturing process.

***Allowable Subject Matter***

5. Claims 1-14 allowed.

***Response to Amendment/Arguments***

6. Applicant's arguments filed 11/08/2004 have been fully considered and Allowed claims 1-14 but the argument of claims 15-17 are not persuasive.

Regarding independent claims 15 Applicants argue that Lin fails to process path data into consideration and most influential operation from the plurality of operations. However, the Examiner disagrees since Lin discloses the process path data (column 9, lines 5-15, i.e., ...through the use of pointer and segmenting the information can be obtained...column 10, lines 29-51), most influential operation from the plurality of operations (column 12, lines 46-54, ...a number of desirable operation ...Fig. 19).

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning communication or earlier communication from the examiner should be directed to Kidest Bahta, whose telephone number is (571) 272-3737. The examiner can normally be reached on M-F from 7:30 a.m. to 4:00 p.m. EST. If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached (571) 272-3749. Additionally, the fax phone for Art Unit 2125 is (703) 308-6306 or 308-6296. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Kidest-Bahta



January 31, 2004